CONCEPT: CHEMICAL PRESERVATION OF PERISHABLE PRODUCTS

●Most chemicals covered so far can be used to clean/disinfect/sterilize non-food items but are _____ safe to ingest.

□ Chemicals used in food preservation *must* be _____-toxic & safe for ingestion.

□ *Recall:* **preservation** is the process of delaying spoilage of *perishable products* (items likely to go bad quickly).

□ *Organic acids*, *nitrates* & *nitrites* are chemicals commonly used in food preservation.

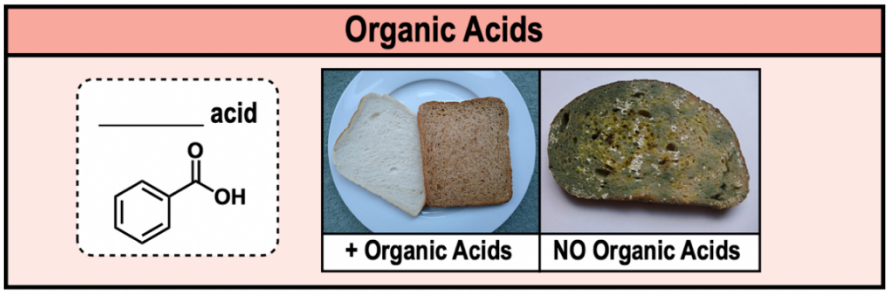
Organic Acids Used in Food Preservation

●**Organic acids:** any _____ compound with *acidic* properties.

□ Examples of these antibacterial agents include *benzoic*, *sorbic*, & *propionic acids*.

□ _____ organic acids are added to food products like bread & juices to *prevent* microbial growth.

□ Creates _____ environment that prevents growth of most bacteria & molds by affecting cell membranes.



PRACTICE: Which chemical is added to bread to prevent to growth of mold?

a) Acetic acid. b) Lactic acid. c) Sorbic acid. d) Quats.

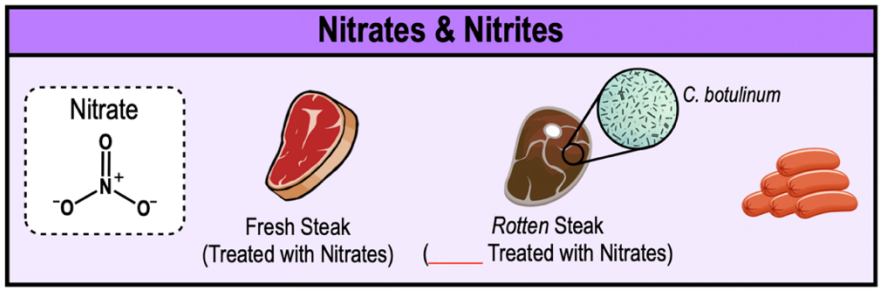
Nitrate & Nitrite in Food Preservation

●Nitrate & nitrite (reduced form of nitrate) are primarily used for preserving processed _____ in 2 ways:

1) Inhibits the *germination* of _____ from the bacteria *Clostridium botulinum.*

2) At _____ concentrations, they can be used to *preserve* the "pink" color associated with meat (Ex. Hot Dogs).

□ Can be converted to *nitrosamines* by improper cooking or certain gut bacteria making it carcinogenic.



PRACTICE: The most important function of nitrites in processed foods is to:

a) Prevent microbes in brewing beer.
b) Prevent carcinogen formation.
c) Inhibits *Clostridium botulinum* endospores.
d) Make the food more acidic.